



POINTS LIST FOR VAV AIR COOLED CHILLER

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SEQUENCE OF OPERATION FOR AIR COOLED CHILLER

- AIR COOLED CHILLER
1. DURING NORMAL OPERATION CHILLER WILL BE OFF. CHILLED WATER WILL BE PROVIDED TO AIR HANDLER BY THE HOUSE CHILLED WATER SYSTEM. AFTER ISOLATION VALVE V-1 & V-2 ARE COMPLETELY CLOSED, ISOLATION VALVES V-3 & V-4 WILL BE OPENED.
2. UPON SIGNAL FROM BMS THAT HOUSE CHILLED WATER SYSTEM CAN NOT SUPPORT LOAD ISOLATION VALVES V-3 & V-4 SHALL CLOSE, ISOLATION VALVES V-1 & V-2 SHALL OPEN AND CHILLER SHALL ACTIVATE AS NOTED BELOW.
3. CHILLER - RUN CONDITIONS:
a. THE CHILLER SHALL BE ENABLED TO RUN WHENEVER:
1) SIGNAL FROM BMS INDICATES HOUSE CHW SYSTEM CAN NOT MEET LOAD
2) AND THE OUTSIDE AIR TEMPERATURE IS GREATER THAN 54°F (ADJ.).
4. TO PREVENT SHORT CYCLING, THE CHILLER SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH USER DEFINABLE), UNLESS SHUTDOWN ON SAFETIES OR OUTSIDE AIR CONDITIONS.
5. THE CHILLER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.
6. EMERGENCY SHUTDOWN: THE CHILLER SHALL SHUT DOWN AND AN ALARM GENERATED UPON RECEIVING AN EMERGENCY SHUTDOWN SIGNAL STATUS.
7. CHILLER WATER PUMP:
a. THE CHILLED WATER PUMP SHALL RUN ANYTIME THE CHILLER IS CALLED TO RUN.
b. THE CHILLED WATER PUMP SHALL START PRIOR TO THE CHILLER BEING ENABLED AND SHALL STOP ONLY AFTER THE CHILLER IS DISABLED. THE CHILLED WATER PUMP SHALL THEREFORE HAVE:
c. A USER ADJUSTABLE DELAY ON START.
d. AND A USER ADJUSTABLE DELAY ON STOP.
e. THE DELAY TIMES SHALL BE SET APPROPRIATELY TO ALLOW FOR ORDERLY CHILLED WATER SYSTEM START-UP, SHUTDOWN AND SEQUENCING.
f. ALARMS SHALL BE PROVIDED AS FOLLOWS:
1) CHILLED WATER PUMP FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
2) CHILLED WATER PUMP RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
3) CHILLED WATER PUMP RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
4) CHILLED WATER PUMP VFD FAULT.
g. CHILLED WATER PUMP SPEED CONTROL: WHILE THE CHILLER IS ON:
1) THE CHILLED WATER PUMP VFD WILL BE SET TO PROVIDE CHW FLOW AS SHOWN IN EQUIPMENT SCHEDULE. IF ONE PUMP GOES DOWN ON FAILURE, THE REMAINING PUMP SHALL RUN.
8. CHILLER: THE CHILLER SHALL BE ENABLED AFTER A USER ADJUSTABLE TIME AFTER PUMP STATUSES ARE PROVEN ON. THE CHILLER SHALL THEREFORE HAVE A USER ADJUSTABLE DELAY ON START.
a. THE DELAY TIME SHALL BE SET APPROPRIATELY TO ALLOW FOR ORDERLY CHILLED WATER SYSTEM START-UP, SHUTDOWN AND SEQUENCING.
b. THE CHILLER SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.
c. ALARMS SHALL BE PROVIDED AS FOLLOWS:
1) CHILLER FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
2) CHILLER RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
3) CHILLER RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
9. CHILLED WATER TEMPERATURE MONITORING: THE FOLLOWING TEMPERATURES SHALL BE MONITORED:
a. CHILLED WATER SUPPLY.
b. CHILLED WATER RETURN.
c. ALARMS SHALL BE PROVIDED AS FOLLOWS:
d. HIGH CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS GREATER THAN 50°F (ADJ.).
e. LOW CHILLED WATER SUPPLY TEMP: IF THE CHILLED WATER SUPPLY TEMPERATURE IS LESS THAN 38°F (ADJ.).
10. CHILLER BYPASS VALVE V-5 SHALL MODULATE TO MAINTAIN THE MINIMUM FLOW THROUGH THE CHILLER WHENEVER THE CHILLER OPERATES.

